National Institute of Standards and Technology
Gaithersburg, MD 20899

National Type Evaluation Program

Certificate of Conformance

for Load Cells

For:

Load Cell
Model Family: Z *
n_{max} Single Cell III: See Below
n_{max} Single Cell III L: 10,000
Capacity: See Below

Accuracy Class: III and III L

Submitted by:

Cardinal Scale Manufacturing Co.
P.O. Box 151
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Standard Features and Options

* The specific model of load cells covered by this certificate are identified by the capacity of each load cell represented.

Load Cell Parameters:

Model	Capacity (lb)	Class III - Single		Class III L - Single		Minimum Dead Load (lb)
		v_{min} (lb)	n_{max}	v_{min} (lb)	n_{max}	
Z-50	50	0.005	5,000	0.0025	10,000	5
Z-100	100	0.010	5,000	0.005	10,000	5
Z-250	250	0.035	3,000	0.025	10,000	10
Z-500	500	0.070	3,000	0.050	10,000	10
Z-1,000	1,000	0.140	3,000	0.100	10,000	10

Nominal Output: 2 mV/V

Temperature Range: -10 to 40 °C (14 to 104 °F)

Effective Date: April 6, 1993

Chief, Office of Weights and Measures
Issue Date: June 23, 1993

Cardinal Scale Manufacturing Company
Tension Load Cell
Model Family: Z

Application: These load cells may be used in both Class III and III L scales for both single and multiple cell applications consistent with the model designations, number of scale divisions, and parameters specified in this certificate. Load cells of a given accuracy class may be used in applications with lower accuracy class requirements provided the number of scale divisions, the v_{min} values, and temperature range are suitable for the application. The manufacturer may market load cells with fewer scale divisions (n_{max}) and with larger v_{min} values than those listed on the certificate. However, the load cells must be marked with the appropriate n_{max} and v_{min} for which the load cell may be used.

Identification: The manufacturer name, model designation, and serial number are located on an identification plate mounted on the load cell. A document with a matching serial number and the remainder of the required information accompanies the load cell.

Test Conditions: This certificate supersedes Certificate of Conformance Number 88-166A1 and is issued to include the 50 lb and 100 lb capacity load cells. The current and original test conditions are listed below.

Certificate of Conformance Number 88-166A1

One 50 lb capacity load cell was tested using dead weights as the reference standard. The data were analyzed for both single and multiple load cell applications. The cell was tested over a temperature range of -10 to 40 °C. Three tests were run on the cell at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The barometric pressure test was waived due to the insensitivity of the load cell design to changes in barometric pressure.

Certificate of Conformance Number 88-166

One 500 lb capacity load cell was tested to capacity using dead weights. The data were analyzed for both single and multiple load cell applications. The cell was tested over a temperature range of -10 to 40 °C. Three tests were run on the cell at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The barometric pressure test was waived due to the insensitivity of the load cell design to changes in barometric pressure. The manufacturer's laboratory was used to collect the test data.

Type Evaluation Criteria Used: 1993 Edition, NIST Handbook 44

Tested By: NIST Force Group, NIST Office of Weights and Measures, and G. Castro (CA)

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